

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No. 7,260,673

Confirmation No. 1652

Issued: August 21, 2007

Name of Patentee: Ross

Patent Title: METHOD AND APPARATUS FOR
VERIFYING THE INTEGRITY OF A
CONTENT-ADDRESSABLE MEMORY
RESULT

**REQUEST FOR CERTIFICATE OF CORRECTION OF
PATENT FOR PATENT OFFICE MISTAKE (37 C.F.R. § 1.322)**

Attn: Certificate of Correction Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


Dear Sir:

It is requested that a Certificate of Correction be issued to correct Office mistakes found the above-identified patent. Attached hereto is a Certificate of Correction which indicates the requested correction. For your convenience, also attached are copies of selected pages (a) from the issued patent with errors highlighted, and (b) from the Notice of Allowance mailed March 31, 2007 and (c) Amendment D filed October 26, 2006, with the correct text/instructions. Please note that the claims were renumbered in the Notice of Allowance, and the attached pages from Amendment D have been annotated to show the new numbering.

In re US Patent No. 7,260,673

It is believed that there is no charge for this request because applicant or applicants were not responsible for such error, as will be apparent upon a comparison of the issued patent with the application as filed or amended. However, the Assistant Commissioner is hereby authorized to charge any fee that may be required to Deposit Account No. 501430.

Respectfully submitted,
The Law Office of Kirk D. Williams

Date: Nov 30, 2009 By 
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One of the Attorneys for Applicants
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**UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION**

Page 1 of 1

PATENT NO. : 7,260,673
APPLICATION NO. : 09/910,227
DATED : Aug. 21, 2007
INVENTOR(S) : Ross

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Col. 10, Replace claim 46 with the following:

- 46. The apparatus of claim 41, wherein said means for generating the comparison value includes:
- means for decoding the mask value to generate a decoded mask value;
 - means for masking the input value with the decoded mask value to generate a masked input value; and
 - means for applying a data protection function to the masked input value to generate the comparison value. –

Col. 10, Replace claim 47 with the following:

- 47. The apparatus of claim 41, further comprising means for signaling an error condition if the comparison value is not equal to the data protection field. –

Col. 11, Claim 56, replace “apparatus of claim 55” with – apparatus of claim 54 –

MAILING ADDRESS OF SENDER:

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25. The apparatus of claim 20, wherein the index includes an identification of a position of an entry in the content-addressable memory matching the input value.

26. An apparatus comprising:

- a content-addressable memory including a plurality of entries, each of the plurality of entries including a value and a data protection field, wherein the content-addressable memory is configured to identify one of the plurality of entries in response to a look operation on an input word;
- a data protection generator, coupled to the content-addressable memory, to receive said value of said identified one of the plurality of entries and to generate a comparison value; and
- a comparison mechanism, coupled to the data protection generator and the content-addressable memory, configured to compare the comparison value and said data protection field of the identified one of the plurality of entries in order to identify whether or not there was a data protection error.

27. The apparatus of claim 26, wherein the content-addressable memory includes a binary content-addressable memory.

28. The apparatus of claim 26, wherein, for each of the plurality of entries, said data protection field of a particular entry includes a pre-computed data protection result for said value of the particular entry.

29. A method comprising:

- receiving a content-addressable memory index generated based on a lookup operation in a content-addressable memory on an input word, the content-addressable memory index including a value field and a data protection field;
- extracting the value field and the data protection field from the content-addressable memory index;
- performing a data protection function on the value field to generate a comparison result; and
- comparing the comparison result with the data protection field in order to identify whether or not there was a data protection error.

30. The method of claim 29, wherein the content-addressable memory includes a binary content-addressable memory.

31. The method of claim 29, wherein the data protection field includes a pre-computed data protection result.

32. The method of claim 29, further indicating an error condition if the comparison result is not equal to the data protection field.

33. An apparatus comprising:

- a content-addressable memory configured to receive an input word and to generate an index;
- a memory, coupled to the content-addressable memory and a comparison mechanism, to receive at least a first portion of the index generated by the content-addressable memory and to retrieve a data protection field from a location identified based on the index;
- a data protection generator, coupled to the content-addressable memory and the comparison mechanism, configured to receive at least a second portion of the index generated by the content-addressable memory and to generate a comparison value based on the index; and

the comparison mechanism configured to compare the comparison value generated by the data protection generator and the data protection field retrieved from the memory in order to identify whether or not there was a data protection error.

34. The apparatus of claim 33, wherein the content-addressable memory includes a binary content-addressable memory.

35. A method comprising:

- generating an index by a content-addressable memory based on an input value, the index identifying a matching entry of the content-addressable memory;
- generating a comparison value by a data protection generator based at least on a portion of the index received from the content-addressable memory;
- acquiring a data protection field from a memory the data protection field being retrieved from an address based at least on a portion of the index received from the content-addressable memory; and
- comparing the comparison value generated by the data protection generator to the data protection field acquired from the memory to identify whether or not an error exists.

36. The method of claim 35, wherein the data protection field includes a pre-computed data protection result.

37. The method of claim 35, wherein the content-addressable memory includes a binary content-addressable memory.

38. The method of claim 35, wherein said acquiring the data protection field includes a lookup operation on a memory.

39. The method of claim 35, wherein generating the comparison value includes applying a data protection function to the index.

40. The method of claim 35, further comprising signaling an error condition if the comparison value is not equal to the data protection field.

41. An apparatus comprising:

- means for generating an index by a content-addressable memory based on an input value;
- means for acquiring a mask value and a data protection field based on the index;
- means for generating a comparison value based on the mask value and the input value; and
- means for comparing the comparison value to the data protection field in order to identify whether or not an error exists.

42. The apparatus of claim 41, wherein the data protection field includes a pre-computed data protection result.

43. The apparatus of claim 41, wherein the content-addressable memory includes a ternary content-addressable memory.

44. The apparatus of claim 41, wherein said means for acquiring the mask value and the data protection field includes means for performing a lookup operation on a memory.

45. The apparatus of claim 41, wherein said means for generating the comparison value includes:

- means for masking the input value with the mask value to generate a masked input value; and
- means for applying a data protection function to the masked input value to generate the comparison value.

46. The apparatus of claim 44, wherein said means for comparing includes means for indicating an error condition if the comparison value is not equal to the data protection field.

47. The apparatus of claim 44, wherein the data protection field includes a pre-computed data protection result.

48. An apparatus comprising:

- means for receiving an input word and for generating an index;

① ②
Claim 46+47
replace with
claim language
from
Amendment D
filed 10-26-2006

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means for receiving the index and for producing a mask value and a data protection field;
 means for generating a masked result based on the input word and the mask value;
 means for generating a comparison value based on the masked result; and
 means for comparing the comparison value and the data protection field in order to identify whether or not an error exists.

49. The apparatus of claim 48, wherein said means for generating a masked result includes means for decoding the mask value.

50. The apparatus of claim 48, wherein said means for comparing includes means for indicating an error condition if the comparison value is not equal to the data protection field.

51. The apparatus of claim 48, wherein the data protection field includes a pre-computed data protection result.

52. The apparatus of claim 48, wherein said means for receiving the input word and for generating the index includes a content-addressable memory.

53. The apparatus of claim 48, wherein said means for receiving the input word and for generating the index includes a ternary content-addressable memory.

54. An apparatus comprising:

means for receiving an index and for producing a value and a data protection field based on the index;
 means for generating a comparison value based on the value; and
 means for comparing the comparison value to the data protection field in order to identify whether or not an error exists.

55. The apparatus of claim 54, wherein said means for receiving the index and for producing the value and the data protection field includes a binary content-addressable memory.

56. The apparatus of claim 55, wherein the data protection field includes a pre-computed data protection result for the value.

57. An apparatus comprising:

means for generating an index based on an input value to a content-addressable memory identifying a matching entry of the content-addressable memory;
 means for generating a comparison value based on the index received from the content-addressable memory;
 means for acquiring a data protection field from a memory based on the index received from the content-addressable memory; and
 means for comparing the comparison value generated by said means for generating the comparison value to the data protection field acquired by said means for acquiring the data protection field in order to identify whether or not an error exists.

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58. The apparatus of claim 57, wherein said means for generating the index based on the input value includes a binary content-addressable memory.

59. The apparatus of claim 57, wherein said means for acquiring the data protection field includes means for performing lookup operation on a memory.

60. The apparatus of claim 57, further comprising means for signaling an error condition if the comparison value is not equal to the data protection field.

61. A computer-readable medium containing computer-executable instructions for performing operations, said operations comprising:

receiving a content-addressable memory index;
 extracting a value field and a data protection field from the content-addressable memory index;
 performing a data protection function on the value to generate a comparison result; and
 comparing the comparison result with the data protection field in order to identify whether or not an error exists.

62. The computer-readable medium of claim 61, wherein the content-addressable memory includes a binary content-addressable memory.

63. The computer-readable medium of claim 61, wherein the data protection field includes a pre-computed data protection result.

64. The computer-readable medium of claim 61, further indicating an error condition if the comparison result is not equal to the data protection field.

65. An apparatus comprising:

a content-addressable memory configured to receive an input word and to perform a content-addressable memory lookup operation in order to generate a data result for the input word, the data result including a value and a data protection field of an entry in the content-addressable memory matching the input value;
 a data protection generator, coupled to the content-addressable memory, configured to generate a comparison data protection value based on the value; and
 a comparison mechanism, coupled to both of the data protection generator and the content-addressable memory, configured to compare the comparison data protection value and the data protection field in order to identify whether or not there was a data protection error for said content-addressable memory lookup operation.

66. The apparatus of claim 65, wherein the comparison mechanism indicates an error condition if the comparison data protection value is not equal to the data protection field.

* * * * *

(3)
 Should
 be
 "54"

FROM NOTICE OF ALLOWANCE MAILED 03-31-2007

Notice of Allowability	Application No.	Applicant(s)	
	09/910,227	ROSS, MARK A.	
	Examiner	Art Unit	
	Jasmine Song	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amendment filed on 10/26/2006 and IDS filed on 11/05/2006.*
2. ☒ The allowed claim(s) is/are 1-11, 63, 12-17, 64, 18-22, 65, 23-29, 31-62 and 66-67, now renumbered as 1-66 respectively.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of the:

1. ☐ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

Jasmine Song 3/15/07

FROM AMENDMENT D FILED 10-26-2006

In re MARK A. ROSS, Application No. 09/910,227
Amendment D

⁴¹
46 Claim 44 (original): The apparatus of claim ~~39~~⁴¹, wherein said means for generating the comparison value includes:

means for decoding the mask value to generate a decoded mask value;

means for masking the input value with the decoded mask value to generate a masked input value; and

means for applying a data protection function to the masked input value to generate the comparison value.

⁴¹
47 Claim 45 (original): The apparatus of claim ~~39~~⁴¹, further comprising means for signaling an error condition if the comparison value is not equal to the data protection field.

48 Claim 46 (previously presented): An apparatus comprising:
means for receiving an input word and for generating an index;
means for receiving the index and for producing a mask value and a data protection field;
means for generating a masked result based on the input word and the mask value;
means for generating a comparison value based on the masked result; and
means for comparing the comparison value and the data protection field in order to identify whether or not an error exists.

⁴⁸
49 Claim 47 (original): The apparatus of claim ~~46~~⁴⁸, wherein said means for generating a masked result includes means for decoding the mask value.

⁴⁸
50 Claim 48 (original): The apparatus of claim ~~46~~⁴⁸, wherein said means for comparing includes means for indicating an error condition if the comparison value is not equal to the data protection field.

⁴⁸
51 Claim 49 (original): The apparatus of claim ~~46~~⁴⁸, wherein the data protection field includes a pre-computed data protection result.

(1)

See Claim

46

(Col. 10)

(2)

See

Claim 47

Col. 10

FROM AMENDMENT D FILED 10-26-2006

In re MARK A. ROSS, Application No. 09/910,227
Amendment D

§2 Claim 50 (original): The apparatus of claim 46, wherein said means for receiving the input word and for generating the index includes a content-addressable memory.

§3 Claim 51 (original): The apparatus of claim 46, wherein said means for receiving the input word and for generating the index includes a ternary content-addressable memory.

§4 Claim 52 (previously presented): An apparatus comprising:
means for receiving an index and for producing a value and a data protection field based on the index;
means for generating a comparison value based on the value; and
means for comparing the comparison value to the data protection field in order to identify whether or not an error exists.

§5 Claim 53 (original): The apparatus of claim 52, wherein said means for receiving the index and for producing the value and the data protection field includes a binary content-addressable memory.

§6 Claim 54 (original): The apparatus of claim ⁵⁴~~52~~, wherein the data protection field includes a pre-computed data protection result for the value.

③ See Col. 11
Claim 56